CENCO Refining Company

12345 Lakeland Road • Santa Fe Springs, CA 90670 • Phone (562) 944-6111 • Fax (562) 903-8911

January 24, 2000

Ms. Florence Gharibian
Chief, Statewide Compliance Division
Department of Toxic Substances Control
1011 North Grandview Avenue
Glendale, CA 91201

Dear Ms. Gharibian:

Enclosed as requested please find a copy of EPA's latest (1995) Site Assessment (Attachment 1) for CENCO's Refinery. I have flagged the Remedial Site Assessment Decision which concludes that, "The Regional Water Quality Control Board is the lead agency for this site. EPA will continue to monitor the site's progress." EPA also determined that the priority for further assessment is "lower". In the Introduction (p.1) EPA's consultant states, "The Powerine Oil company site was identified as a potential hazardous waste site and entered into the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) on November 1, 1984 (1)." 1984 is the year that Powerine declared bankruptcy. I am confident that the bankruptcy is the reason Powerine was entered into the CERCLIS.

EPA conducted site inspections to perform assessments in 1985 and 1995. There has been no EPA investigation at the refinery since 1995, and I do not expect another inspection until 2005. Subsurface conditions at and downgradient of the Refinery are much the same today as when EPA performed its site assessment in 1995. However, the following information has been developed since 1995:

1) The lateral extent of the dissolved BTEX plume downgradient of the Refinery has been defined and does not extend beyond approximately 2900 feet offsite.
2) Powerine/CENCO researched regional groundwater quality and identified numerous sites as major contributors to regional groundwater contamination.
3) Four sites with HVOC contamination plumes which extend offsite have been identified which are located less than 0.7 miles directly upgradient of the Refinery.
4) Investigations performed to date at the Refinery have located no sources of HVOC on site, but further substantiate migration of HVOCs onto CENCO's property from upgradient sources.
5) The Regional Water Quality Control Board issued order 97-118 to Powerine/CENCO requiring among other things, the development of the Master Work Plan (MWP) for the site. CENCO is in full compliance with 97-118.

Given the above, EPA will be unlikely to make any different determination during their next site assessment than they have made to date.

Attachment 2 is the project description from the Environmental Impact Report for CENCO's Refinery Upgrade Project, which was circulated for public comments in July 1999. Attachment 3 is CENCO's list of tanks that contain potentially hazardous material. As we notified you on Friday, in an abundance of caution to avoid potential air quality permit issues, CENCO transferred recovered oil from Tanks 3012 and 3072 to Tank 20014 and spent caustic from the FCC Sales Bullet into Tank 1002. I have highlighted figure 2-5 from the EIR, which shows the location of each Refinery Upgrade Project,to show the location of each of the tanks in Attachment 3.

Also, I am finalizing the Tank Sampling Plan for Tanks 10006 and 27105, and hope to get it to you within the next several days.

Please feel free to contact me with any questions you may have.

Sincerely,

June Christman
Manager – Environmental Engineering

JMC:md

Cc: Fred Latham, City of Santa Fe Springs
Paul Ashworth, City of Santa Fe Springs
Neal Welland, Santa Fe Springs Fire Department

Attachment 1

OLL ⇒ FILE 41025
cc: MW
JMC

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

OCT 26 1995

Ms. June Christman
Powerine Oil Company
12354 Lakeland Road
Santa Fe Springs CA 90670

Re: Powerine Oil Company
CAD008383291

Dear Ms. Christman:

Enclosed, please find the most recent Site Assessment report for the subject site. This report contains the results of the evaluation conducted by the U.S. Environmental Protection Agency (EPA) under Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 40 U.S.C. §9604, commonly known as Superfund.

Please forward any written comments to:

Jim Quint (H-8-1).
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 95105

If you have any questions, please call Mr. Quint at (415) 744-2331.

Sincerely,

Betsy Curnow

Betsy Curnow, Chief
Planning & Assessment Section

Enclosure

cc: Keith Elliot, CAL EPA RWQCB, Los Angeles Region
Julie Johnson, CAL EPA DTSC, Region 3

Purpose: Site Inspection Prioritization

Site: Powerine Oil Company
12354 Lakeland Road
Santa Fe Springs, CA 90670
Los Angeles County

Site EPA ID Number: CAD008383291

URS Investigators: Mary-Jane Shanagher
Christina Howley

Date of Inspection: September 11, 1995

Report Prepared By: Mary-Jane Shanagher

Report Reviewed By: Ingrid Chen

Review/Concurrence: William E. Lindsley

Report Date: September 26, 1995

Document Control No.: 62316.85.33.1686 05.a.1

Submitted To: Gordon Woodrow
EPA Region IX
Site Assessment Manager

1.0 Introduction

The U.S. Environmental Protection Agency (EPA), Region IX, under authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), has tasked URS Consultants, Inc. (URS) to conduct a Site Inspection Prioritization (SIP) of the Powerine Oil Company in Santa Fe Springs, Los Angeles County, California. The site is evaluated using the EPA's Hazard Ranking System (HRS) criteria to assess the relative threat associated with actual or potential releases of hazardous substances at the site. The HRS has been adopted by the EPA to help set priorities for further evaluation and eventual remedial action at hazardous waste sites. The HRS is the primary method of determining a site's eligibility for placement on the EPA's National Priorities List (NPL). The NPL identifies sites at which the EPA may conduct remedial response actions. This report summarizes URS' findings of the SIP activities.

The Powerine Oil Company site was identified as a potential hazardous waste site and entered into the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) on November 1, 1984 (1). A Preliminary Assessment Summary Report (PA) was prepared by California Department of Health Services for the EPA in June 1984 (2). A Site Inspection (SI) was performed by Ecology and Environment, Inc. (E&E) for the EPA in August 1985 (3).

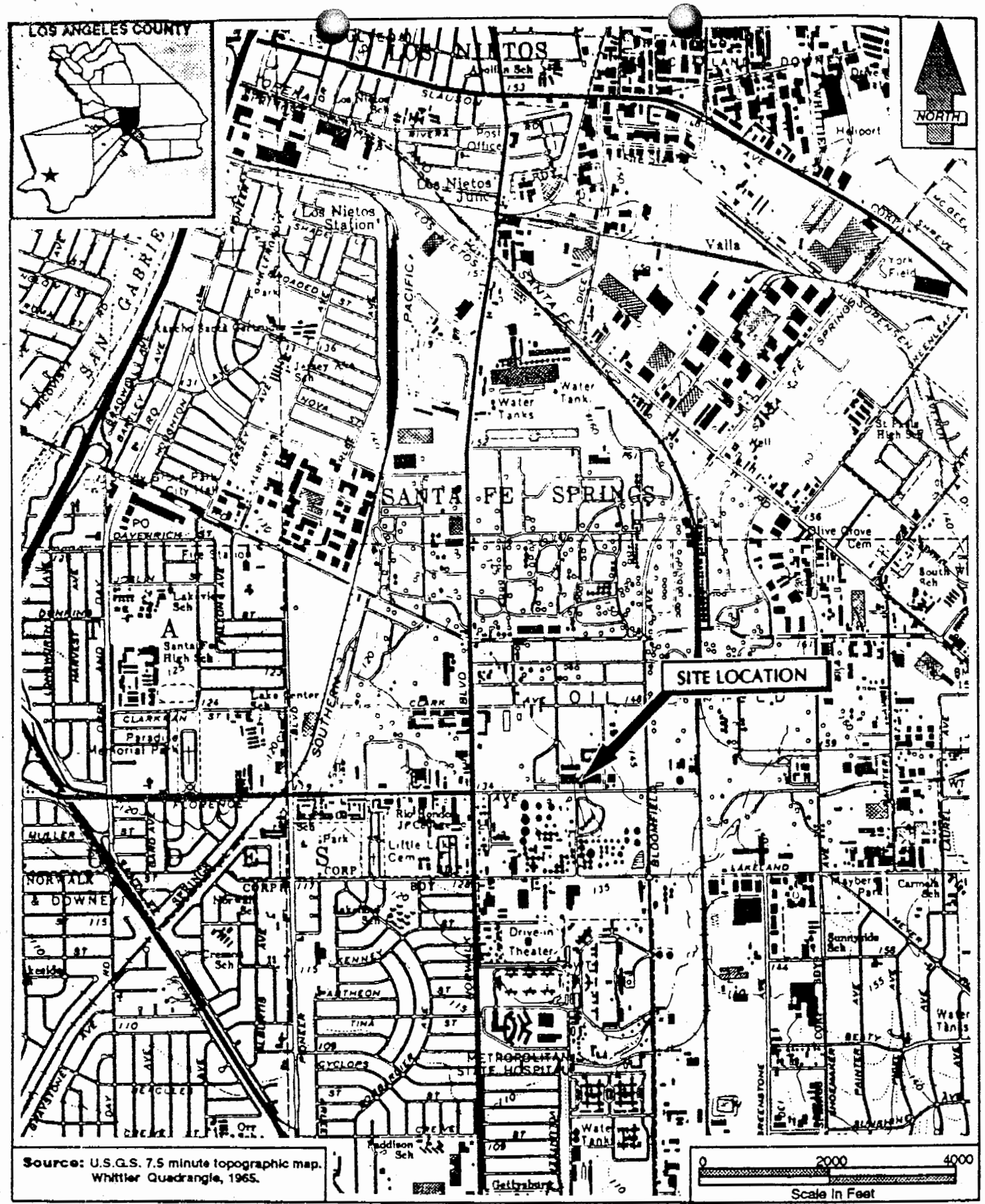
1.1 Apparent Problem

The apparent problems at the site are as follows:

- On February 25, 1985, the California Regional Water Quality Control Board (RWQCB) issued Cleanup and Abatement Order No. 85-17 requiring operators of petrochemical facilities to conduct a subsurface investigation of their facilities to detect and assess any groundwater pollution that might be present. Powerine Oil Company conducted the required investigation and found that groundwater underlying the site had been contaminated with petroleum hydrocarbons (4, 5).

- A release of contaminants to shallow groundwater has been documented at the Powerine Oil Company site. Results of groundwater sample analyses, conducted by AeroVironment, Inc. in April 1995, document volatile organic compounds (VOCs) at concentrations significantly greater than background concentrations, as well as total petroleum hydrocarbons (TPHs) and benzene, ethylbenzene, toluene, and xylene (BETX) in the shallow groundwater zone (located between 70 and 110 feet below ground surface [bgs]) (5). Fuel contamination on-site is excluded from further CERCLA investigations by the provisions of the CERCLA petroleum exclusion (Section 101[14] and Section 104[a][2] exclude all refined petroleum products, fuels, crude oils or any fraction thereof from consideration under CERCLA) (6).

- The shallow groundwater aquifer is considered by the RWQCB to be interconnected with the deeper groundwater aquifers within 2 miles of the site (7). Groundwater within 4 miles of the site is used as a source of drinking water, distributed by five water purveyors, providing water for approximately 114,000 people (8, 9, 10, 11, 12, 13).



URS Consultants, Inc.
100 California Street Suite 500
San Francisco, CA 94111
May 23, 1995

Site Location Map

Powerine Oil Company
Santa Fe Springs, CA

FIGURE

1

and assess potential groundwater pollution (4, 7). On July 27, 1994, Powerine Oil Company submitted a groundwater investigation workplan to the RWQCB, which proposed installing three additional on-site and up to seven off-site groundwater monitoring wells to define the extent of contamination migration from the refinery. The work plan was approved by the RWQCB on August 8, 1994, with the RWQCB requiring Powerine Oil Company to collect additional soil samples from each soil boring, analyzing for TPH, gasoline and VOCs. To date, the groundwater investigations have been significantly delayed, and sampling has yet to be completed (17, 19).

4.0 Pertinent Hazard Ranking System Factors

The following pertinent Hazard Ranking System factors are associated with the Powerine Oil Company site:

- The groundwater migration pathway is the primary pathway of concern at the Powerine site. An observed release of TPHs, BETX and VOCs has been documented in shallow groundwater beneath the site. The shallow aquifer lies at approximately 70 to 110 feet bgs beneath the site. Groundwater flow beneath the site is to the south (5). The shallow aquifer is considered by the RWQCB to be interconnected with the deeper aquifers within 2 miles of the site (7). Drinking water wells within 4 miles of the site are screened in the deeper aquifers, ranging from 200 to 900 feet bgs. Groundwater within 4 miles of the site is used as a drinking water supply for approximately 114,000 people, supplied by five water purveyors (8, 9, 10, 11, 12, 13).

- The surface water migration pathway does not appear to be a pathway of concern at the Powerine Oil Company site. Surface water from stormwater runoff intakes at the site is contained in basins located on-site. There are no drinking water, fisheries or sensitive environments associated with Coyote Creek, the intermittent stream located approximately 0.25 to 0.5 mile southeast of the site (8, 14).

- The soil and air pathways do not appear to be pathways of concern at the Powerine Oil Company site. Contamination on-site is limited to the subsurface. There are no residences, schools, day-care facilities, or sensitive environments on or within 200 feet of the site. The site is fenced to preclude unauthorized entry to the site (8, 14).

Appendix A
Reference List

17. Christman, June, Powerine Oil Company, to Mary-Jane Shanagher, URS, letter with attachments re: site inspection interview questions, September 8, 1995.

18. Winefield, Matt, Powerine Oil Company, to June Christman, Powerine Oil Company, memorandum re: summary of refinery chlorinated compound use, September 6, 1995.

19. Winefield, Matt, Powerine Oil Company, and Mary-Jane Shanagher, URS, telephone conversation, September 19, 1995.

Appendix B
Contact Log and Reports

Contact Log cont.

Facility Name: Powerine Oil Company
Facility ID#: CAD008383291

Contact	Affiliation	Phone #	Date	Information
Ron Knottingham	Southern California Water Company	(310) 907-7430	6/29/95	Southern California Water Company provides water within 4 miles of the Powerine Oil Company site in Santa Fe Springs. There are nine active wells within 4 miles of the site, serving approximately 9.139 service connections. Groundwater supplies 57 percent of the supply; imported surface water from the Metropolitan Water District supplies 43 percent of the supply.

URS Consultants
Environmental Protection Agency
Site Assessment Program

Contact Report

Contact Made Concerning: **CAD008383291**

Powerine Oil Company
12354 Lakeland Road
Santa Fe Springs, California 90670
County of Los Angeles

Agency or Affiliation Contact: **City of Santa Fe Springs**
Department: Public Works Department
Address: 11710 Telegraph Road
City, State, Zipcode: Santa Fe Springs, CA 90670
County: Los Angeles

Representative Contact:

	1.	2.	3.
Name:	Ron Hughes	Ron Hughes	
Title:	Civil Engineer	Civil Engineer	
Contact Phone Number:	(310) 868-7114	(310) 868-7114	
Contact Date:	6/7/95	9/21/95	
Contact Facsimile Number:			

Contacted by URS Representative: Mary-Jane Shanagher

Discussion:

6/7/95

The City of Santa Fe Springs, Public Works Department has four potable wells: three active drinking wells (well nos. 1, 2, and 304), and one standby well (well no. 4). The standby well is maintained for active status, although it is not currently used as a drinking water source. The system serves a total population of 16,000 people from a blended supply of 45 percent groundwater and surface water. Surface water is distributed via the Metropolitan Water District. Mr. Hughes did not know the surface water supply source or the surface water percentage contribution. Mr. Hughes suggested URS call the Metropolitan Water District for further information.

Wells are screened at the following depths:

Well # 1: 200-288 feet, 300-900 feet.
Well # 2: 336-1,218 feet.
Well # 304: 314-321 feet, 453-457 feet, 485-494 feet.
Well # 4: 300-340, 380-580 feet.

9/21/95

Pumpage data for the water year 1994-1995 for each well was provided as follows:
Well # 1: 2,019 acre-feet
Well # 2: 310.5 acre-feet
Well # 304: 1,330 acre-feet
Well # 4: 2.72 acre-feet

End Contact Report

This contact report was sent for confirmation by: ☐ Letter ☐ Phone ☐ Fax ☐ Other _____

This contact report was reviewed by: _____
(Signature and Date)

Appendix C
Site Reconnaissance Interview and Observations Report

Comments and Observations (continued)

Corporation. Currently, Castle Energy Corporation is involved with ongoing negotiations with several parties for the sale of Powerine Oil Company. Oil refining production has temporarily stopped as of July 1995. Site representatives state that the start-up date is anticipated for January 1996. Production capabilities at the site are 50,000 barrels per day.

The facility processes raw materials (crude oil, raw naphtha, and chlorinated hydrocarbons) to produce petroleum products. The major products produced by the refinery are transportation fuels, including Jet A fuel, unleaded regular gasoline, high and low sulfur diesel, and petroleum coke. The refinery also produces refinery gas and hydrogen, which are consumed internally. In addition, the refinery produces revenue-generating non-fuel by-products, sulfur, and carbon dioxide. Sulfur is used to produce sulfuric acid, as well as for other food applications. Carbon dioxide is used to carbonate various food and beverages.

Appendix D
Latitude/Longitude Worksheet

ammonia and hydrogen sulfide. The hydrogen sulfide and ammonia gases from the Sour Water Strippers are routed to the Sulfur Recovery Unit for removal. Water from the Sour Water Strippers is either returned to the Refinery for use in processing, or is treated and properly discharged.

The Refinery produces steam at a number of locations including at the existing Holman Boiler.

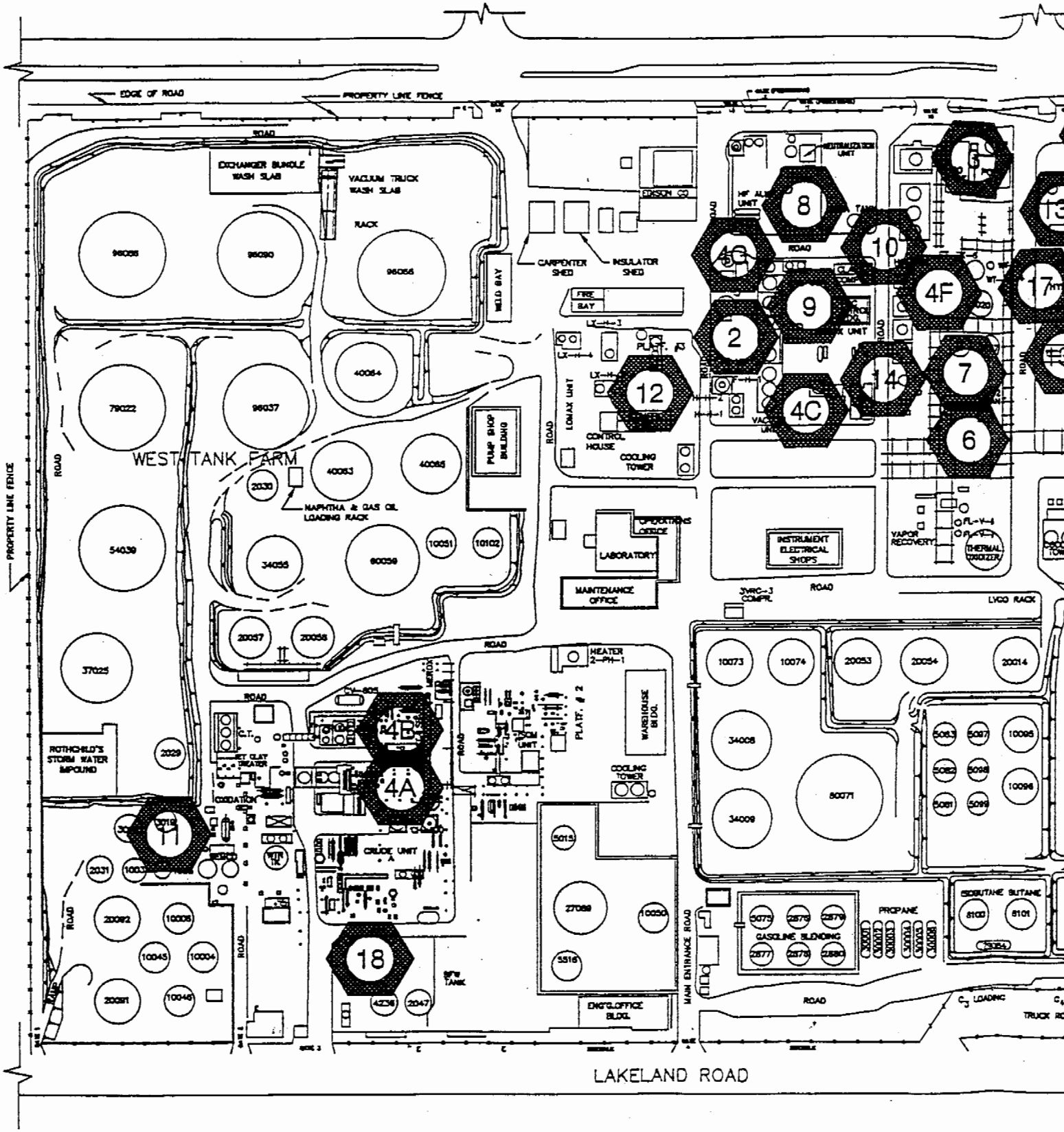
PROJECT DESCRIPTION

CENCO is proposing modifications to the Refinery for several purposes: (1) to comply with the reformulated fuels requirements; (2) replace certain support facilities that were removed from the Refinery; (3) environmental improvement projects to reduce emissions, and hazards, and increase the safety of the Refinery; and (4) to add new facilities that will improve the operational efficiency and safety of the Refinery. The proposed modifications to the CENCO Refinery are discussed below. These modifications are collectively referred to as the 1999 CENCO Refinery Upgrade Project. Figure 2-4 shows the Refinery flow diagram both before and after construction of the proposed project. Figure 2-5 and Figure 2-6 shows the locations of the proposed changes.

REFORMULATED FUELS PROJECTS

The Refinery suspended crude oil refining operations prior to completing all of the modifications necessary to manufacture gasoline in compliance with state regulations. Therefore, while the Refinery can produce reformulated gasoline meeting the federal requirements, modifications are required to the Refinery in order to produce state reformulated fuels. The environmental impacts associated with the Reformulated Fuels Project, as originally proposed (see Table 2-1), were evaluated in the Powerine Reformulated Fuels Project EIR (SCAQMD, 1994 and 1995). CENCO has evaluated the Reformulated Fuels Project and is revising portions of the compliance strategy that were not yet constructed. Therefore, some aspects of the Reformulated Fuels Project have been eliminated or changed. Table 2-2 outlines the Reformulated Fuels Project that was previously evaluated, shows which portions were completed, which ones were not completed, which ones were deleted, and which ones are newly proposed. The remaining modifications required to the Refinery to comply with the reformulated fuels requirements are described below.

CENCO constructed and operated a number of the Reformulated Fuels Projects including the Reformate Splitter, the C4/C5 Vaporizer, the Benzene Saturation/Isomerization Unit, Crude Unit Modifications, Storage and Blending Modifications, the South Holman Boiler, the Heater CH-103, the In-line Gasoline Blender, the Hydrogen Plant Revamp, and the Keystone Boiler Revamp. CENCO is proposing to build new equipment that was previously described and evaluated in the Reformulated Fuels EIR but not yet physically built including the Sulfur Plant/Tail Gas Treating Unit, the FCCU Hydrotreater Modifications, the Kerosene Hydrotreater, the LPG Bullets, and the Rail Car Loading/Unloading Rack. It should be noted that CENCO is proposing changes to the Sulfur Plant/Tail Gas Treating Unit from that which was evaluated in



NOT TO SCALE

ENVIRONMENTAL AUDIT, INC.

CENCO REFIN

LOCATION OF PROPOSED CE

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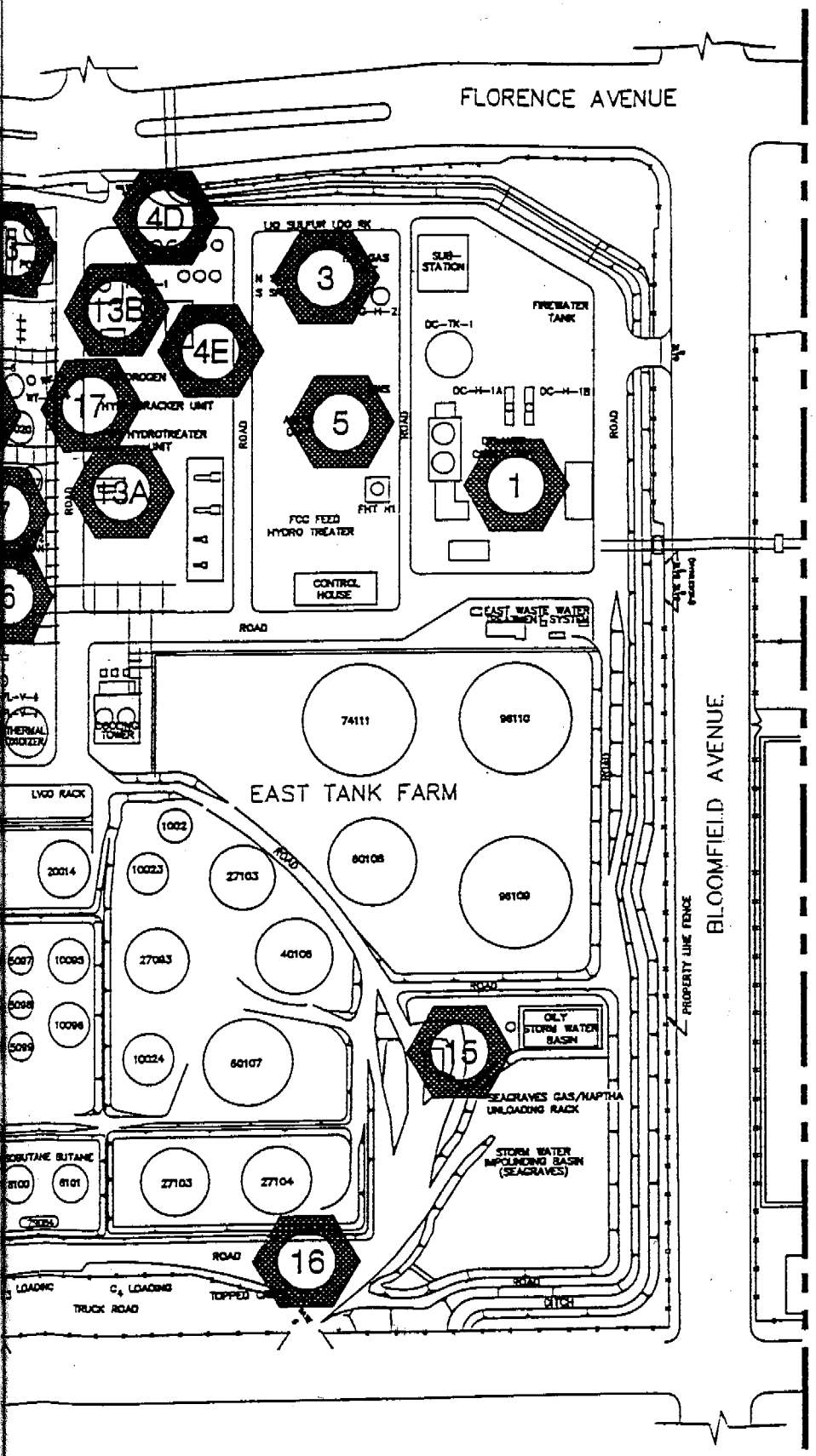
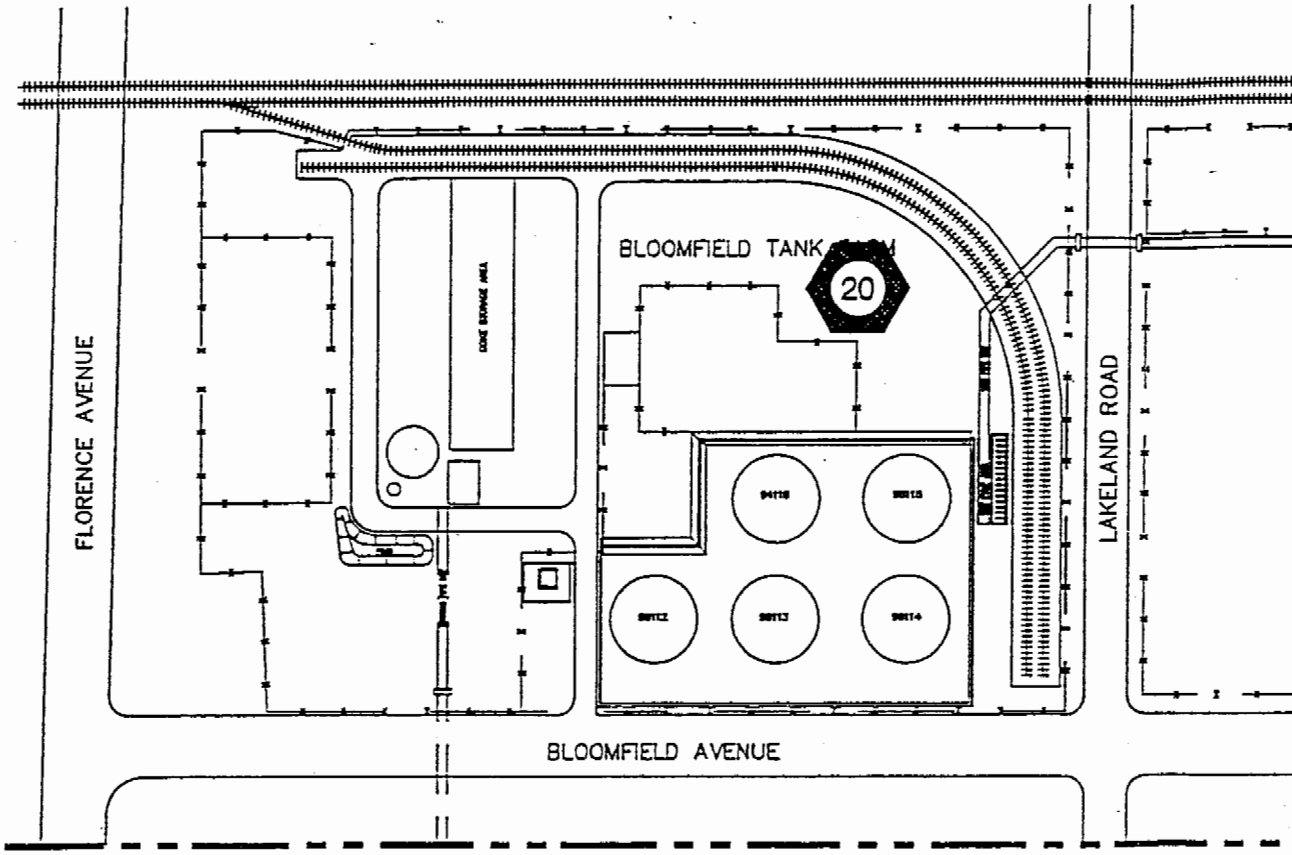


LEGEND

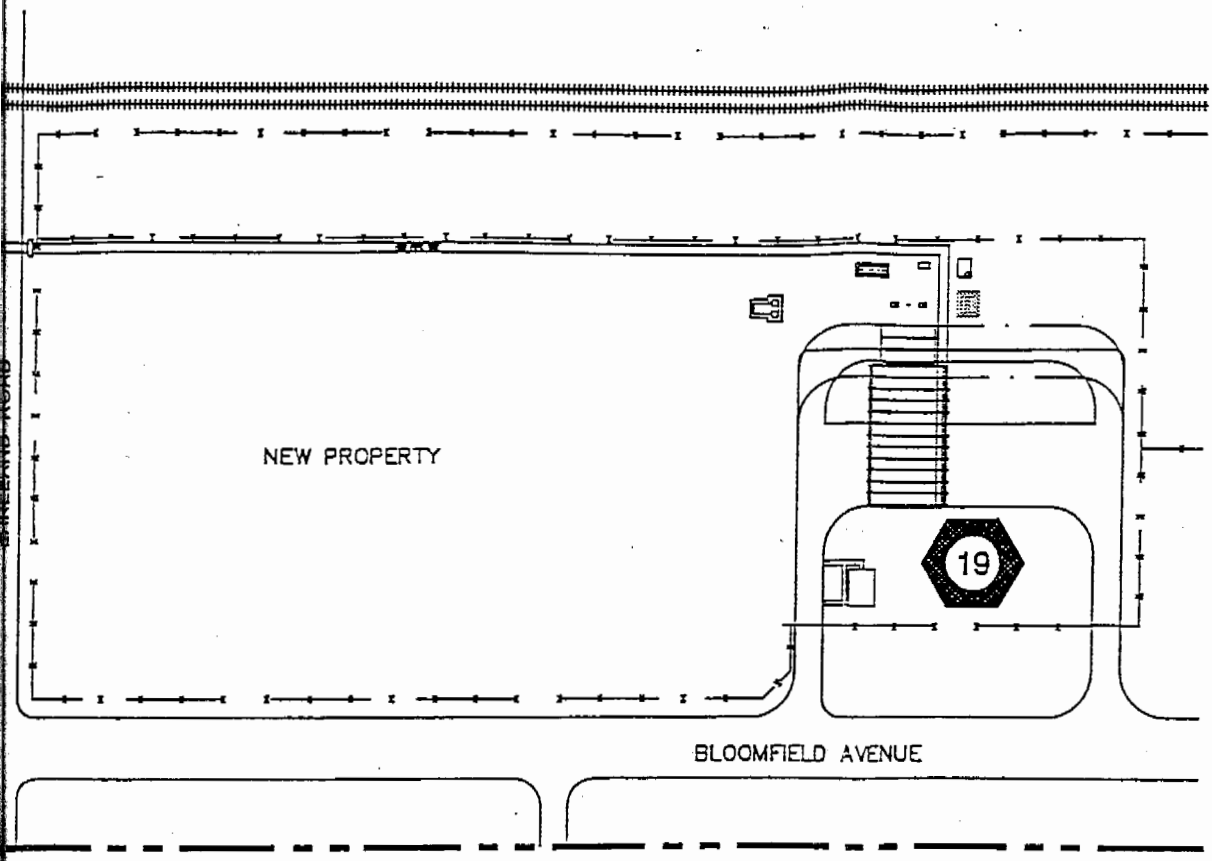
1. AN ADDITIONAL COKER CHARGE HEATER (DC-H-1C)
2. ALTERATION OF AN EXISTING FCC GAS CONCENTRATION UNIT, FCC GASOLINE SPLITTER, OLEFIN SPLITTER
3. MODIFICATION OF THE EXISTING SULFUR PRODUCTION FACILITY- ADDITIONAL SULFUR RECOVERY UNIT WITH TAIL GAS TREATER
4. INSTALLATION OF Low-NOx BURNER AT:
   - 4A. CH-100/CH-300
   - 4B. CHB-01/CHB-02
   - 4C. VH-1/VH-2
   - 4D. KHT-H-1/KHT-H-2
   - 4E. HC-H-4
   - 4F. KEYSTONE BOILER
   - 4G. CO BOILER
5. MODIFICATION OF THE EXISTING AMINE UNIT
6. GAS RECOVERY UNIT (GRU)
7. NEW CO_2 LIQUEFACTION UNIT
8. ALTERATION OF THE EXISTING HF ALKYLATION UNIT BY THE INSTALLATION OF THE ReVAP PROCESS, A NEW BUTANE DEFLUORINATOR, NEW RAPID ACID TRANSFER SYSTEM AND A NEW ASO NEUTRALIZER SYSTEM.
9. ALTERATION OF THE EXISTING BUTANE ISOMERIZATION UNIT BY THE INSTALLATION OF A NEW PROPANE TREATER
10. INSTALLATION OF FLUE GAS RECIRCULATION IN THE EXISTING NORTH HOLMAN BOILER
11. INSTALLATION OF A NEW CRUDE SLOP OIL SYSTEM
12. ALTERATION OF AN EXISTING DISTILLATE HYDROTREATING (DHT) UNIT
13. HYDROGEN PLANT MODIFICATIONS
    - 13 A. HYDROGEN RECOVERY (PSA UNIT)
    - 13 B. HYDROGEN PLANT IMPROVEMENT
14. FUEL GAS MERCAPTAN REMOVAL
15. REFINERY LOADING & UNLOADING RACK CONSOLIDATION
16. CRUDE OIL & PETROLEUM PRODUCTS UNLOADING RACK
17. HYDROCRACKER COALESCER MODIFICATIONS
18. ASPHALT TANKS

CO REFINERY
ROPOSED CENCO PROJECTS

Figure 2-5


FLORENCE AVENUE
BLOOMFIELD TANK
20
LAKELAND ROAD
BLOOMFIELD AVENUE
MATCH LINE A-A (SHEET 1

NOT TO SCALE



(SHEET 1)

LEGEND

19. INSTALLATION OF A NEW BULK LOADING RACK AND ANCILLARY REFINERY FACILITIES
20. RAIL CAR LOADING/UNLOADING RACK

CO REFINERY
K FARM AND NEW BULK LOADING RACK

Figure 2-6

TABLE 2-2

REVISED REFORMULATED FUELS PROJECTS

RFG Projects Proposed, Evaluated in the EIR, and Built	RFG Projects, Proposed, Evaluated in EIR and Not Yet Built	RFG Projects Proposed in the EIR, Not Built and Deleted.	RFG Projects Not Evaluated in the EIR and Now Proposed.
Reformate Splitter	Sulfur Plant/Tail Gas Treating Unit/ Incinerator [1]	Reformate Re-Run Column	FCCU Gas Concentration Unit Modifications consisting of FCCU Gasoline Splitter [1]
C4/C5 Vaporizer	FCCU Feed Hydrotreater Mods [2]	New Hydrogen Plant	Hydrogen Plant Modifications (PSA plus H_2 Improvements) [1]
Benzene Saturation/ Isomerization Unit	Kerosene Hydrotreater [2]	FCCU Depentanizer	
Crude Unit Modifications	LPG Bullets [2]		
Storage and Blending Modifications	Rail Car Loading/ Unloading Rack [2]		
Holman Boiler			
Heater CH-103			
In-Line Gasoline Blender			
Keystone Boiler Revamp			

[1] = New components, or change to component described in 1994/1995 EIR, and included as part of the 1999 CENCO Refinery Upgrade Project

[2] = Will be constructed as described in 1994/1995 EIR. This is discussed under Cumulative Impacts, Chapter 5.

the Reformulated Fuels Final EIR. CENCO also is proposing to install new equipment that was not considered in the Reformulated Fuels EIR including the FCCU Gas Concentration Unit Modifications (Gasoline Splitter) and modifications to the existing Hydrogen Plant. Finally, CENCO has deleted the Reformate Re-Run Column, the proposed new Hydrogen Plant, and the FCCU Depentanizer from the Reformulated Fuels Project.

FCCU Feed Gas Concentration Unit

As part of the Refinery Upgrade Project, the existing FCCU Feed Gas Concentration Unit will be modified by the installation of a new FCCU Gasoline Splitter. FCCU gasoline contains sulfur compounds. The new FCCU Gasoline Splitter will split FCCU gasoline into light and heavy components, with the sulfur remaining in the heavy stream. The light gasoline, containing little or no sulfur will be cooled and pumped to gasoline

remaining gas (PSA tail gas) will be compressed and piped into the refinery fuel gas system at 60 psig. In the Reformulated Fuels Project Final EIR, a new hydrogen plant was proposed and evaluated. That hydrogen plant was not built and the proposed modifications to the existing Hydrogen Production Facility will produce the additional hydrogen required at the Refinery. A new hydrogen plant is not being proposed.

REPLACEMENT PROJECTS

Replacement projects include equipment that were a part of the operating Refinery prior to the suspension of refining activities. However, changes occurred during the time that the refining activities were suspended so that additional modifications are required to efficiently and safely operate the Refinery.

Bulk Loading Rack

Powerine operated a Bulk Loading/Unloading Rack on the south side of Lakeland Road across from the main Refinery entrance. Powerine sold the land that the loading/unloading rack was located on several years ago. A new industrial building has been constructed on the site. As part of the Refinery Upgrade Project, CENCO Refining Company plans to install a new Bulk Loading Rack on the property (referred to as the old Walker Property) located at the southeast corner of Bloomfield Avenue and Lakeland Road (see Figure 2-6). This site will be used for handling and storage of petroleum products and by-products. The new Bulk Loading Rack will allow the Refinery to ship products and by-products (e.g., gasoline, jet fuel, diesel, etc.) by tank truck.

The new Bulk Loading Rack will include four lanes for truck loading and one lane for truck unloading. Each of the four truck loading lanes will be single sided with two loading spots each (one for the tanker truck and one for its trailer). Each lane will be equipped with two 4-inch bottom-loading arms and two 4-inch vapor recovery arms.

The installation of the new Bulk Loading Rack will also include the installation of new shipping pumps for each product being loaded, new offloading pumps, and the new Carbon Adsorption/Absorption Vapor Recovery System. Support facilities for the Bulk Loading Rack and petroleum refinery activities also may be located at the old Walker Property including an office building and warehouse facilities.

Carbon Dioxide Liquefaction Unit

As part of the Refinery Upgrade Project, CENCO plans to install a new Carbon Dioxide Liquefaction Unit. Powerine Oil Company, the previous owner of the Refinery, had leased a Carbon Dioxide Liquefaction Unit from Liquid Carbonics Corporation. The Carbon Dioxide Liquefaction Unit recovered the carbon dioxide from carbon dioxide rich gas that is produced in the existing Hydrogen Plant. Following suspension of Refinery operations, the leased unit was returned to Liquid Carbonic Corporation.

Company to reduce NOx emissions from this existing heater. The replacement of these four burners will not involve any changes to the current permitted maximum-fired duty of 47.5 mmBtu/hr for this heater. These low-NOx burners will burn either refinery fuel gas, natural gas, or a combination of refinery fuel gas and natural gas.

Installation of Low-NOx Burners in the Existing "A" Crude Preheater (CH-300)

As part of the Refinery Upgrade Project, low-NOx burners are being installed in the existing "A" Crude Preheater (CH-300). These ten new low-NOx burners will replace ten existing burners in the "A" Crude Preheater and will allow CENCO Refining Company to reduce NOx emissions from this existing heater. The replacement of these ten burners will not involve any changes to the current permitted maximum-fired duty of 52 mmBtu/hr for this heater. These low-NOx burners will burn either, refinery fuel gas, natural gas, or a combination of refinery fuel gas and natural gas.

Installation of Low-NOx Burners in the Existing "B" Crude Charge Heater No. 1 (CBH-01)

As part of the Refinery Upgrade Project, low-NOx burners are being installed in the existing "B" Crude Charge Heater No. 1 (CBH-01). These ten new low-NOx burners will replace ten existing burners in the "B" Crude Charge Heater No. 1 and will allow CENCO Refining Company to reduce NOx emissions from this existing heater. The replacement of these ten burners will not involve any changes to the current permitted maximum-fired duty of 46 mmBtu/hr for this heater. These low-NOx burners will burn refinery fuel gas, natural gas, or a combination of refinery fuel gas and natural gas.

Installation of Low-NOx Burners in the Existing "B" Crude Charge Heater No. 2 (CBH-02)

As part of the Refinery Upgrade Project, low-NOx burners are being installed in the existing "B" Crude Charge Heater No. 2 (CBH-02). These ten new low-NOx burners will replace ten existing burners in the "B" Crude Charge Heater No. 2 and will allow CENCO Refining Company to reduce NOx emissions from this existing heater. The replacement of these ten burners will not involve any changes to the current permitted maximum-fired duty of 46 mmBtu/hr for this heater. These low-NOx burners will burn refinery fuel gas, natural gas, or a combination of refinery fuel gas and natural gas.

Installation of Low-NOx Burners in the Existing Hydrocracker Fractionator Reboiler Heater (HC-H-4)

As part of the Refinery Upgrade Project, low-NOx burners are being installed in the existing Hydrocracker Fractionator Reboiler Heater (HC-H-4). These four new low-NOx burners will replace four existing burners in the Hydrocracker Fractionator Reboiler Heater and will allow CENCO Refining Company to reduce NOx emissions from this existing heater. The replacement of these four burners will raise the current permitted maximum-fired duty of

Low-NOx Burner in the Existing Keystone Boiler

As part of the Refinery Upgrade Project, a low-NOx burner is being installed in the existing Keystone Boiler. This new burner will replace the present burner in the Keystone Boiler and will allow CENCO Refining Company to reduce NOx emissions from this existing boiler. This burner replacement will not involve any changes to the current permitted maximum-fired duty for this boiler.

Installation of Flue Gas Recirculation in the Existing North Holman Boiler

The existing North Holman Boiler produces 625 psig steam that is used within the Refinery. This boiler is fired exclusively on gaseous fuels, either refinery fuel gas, purchased natural gas, or a combination of refinery fuel gas and purchased natural gas. In order to control NOx emissions, the boiler is currently equipped with a urea injection system.

As part of the Refinery Upgrade Project, the existing urea injection system in the existing North Holman Boiler will be replaced with a new flue gas recirculation (FGR) system. This installation will reduce present NOx emissions and will not involve any changes to the present permitted maximum-fired duty for this boiler. This modification will eliminate the maintenance problem caused by urea injection.

Diesel Hydrotreater (DHT) Charge Drum

As part of the Refinery Upgrade Project, CENCO Refining Company plans to install new equipment in the existing Diesel Hydrotreating (DHT) Unit. This new equipment includes a new DHT Charge Drum and DHT Charge Pump. This alteration will improve control of the feed to the DHT Charge Pumps, reduce downtime due to pump failures, and provide a full-sized spare pump. The spare DHT Charge Pump will be connected to the process rather than being isolated by closed process valves to allow a rapid start-up in the event that the other DHT Charge Pump fails.

The existing DHT Unit uses hydrogen in the presence of a fixed bed catalyst to remove sulfur from diesel fuel. Diesel feed to the DHT Unit is heated and combined with recycle hydrogen before entering the reactor. Reactor effluent is cooled and separated into liquid and vapor streams.

The vapor stream is combined with makeup hydrogen before combining with fresh diesel feed. The liquid stream is further separated into a liquid stream that is the treated diesel product and a vapor stream that is amine treated to become makeup to the refinery fuel gas system. This modifications will provide more unit control by reducing the potential for an upset from the feed pump.

Butane Defluorinator

A new Butane Defluorinator is also proposed, which will use alumina (aluminum oxide) to remove residual HF acid and fluorides from butane that is currently burned as fuel gas so that it can be used as feed for the Butane Isomerization Unit. This new system will reduce gases to the flare. As a result, combustion emissions will be reduced, including both criteria and toxic air pollutants.

Propane Treater

As part of the Refinery Upgrade Project, the existing Butane Isomerization unit Depropanizer System will be modified to allow a liquid propane product to be produced. The propane will be caustic sweetened and then dried and routed to existing propane storage. This process recovers sour gases, which previously would have been routed to the flare. This modification will reduce flare gas flow rate, and NOx and SOx emissions.

NEW REFINERY FACILITIES

New facilities will be required for the efficient operation of the CENCO Refinery. These projects will help the Refinery operate more efficiently and safely.

Crude Unit Oil Recovery System

As part of the Refinery Upgrade Project, CENCO plans to install a new Crude Unit Oil Recovery System. The new system will include new tanks, pumps, piping and a heat exchanger. The new Crude Unit Oil Recovery System will improve waste oil handling, enhance oil/water emulsion breaking, and minimize oil loss.

The previous method of handling slop oils from the crude units resulted in this oil being returned to the crude charge tanks. Process unit reliability can be improved through the installation of the new Crude Unit Oil Recovery System to be located in the existing Wastewater Treatment Area. The new system will also minimize oil loss. Slop oils from the Crude Units along with waste oil from the API Oil/Water Separator will be sent to two new storage tanks. Slop oil from the tanks will be circulated in a heated circulation loop. An emulsion breaking chemical will be added to the slop oil to enhance separation of oil and water. The oil phase will be pumped to the existing crude tanks and the water phase will be sent to the existing API Separator.

Delayed Coker Modifications

The CENCO Refinery includes a Delayed Coker as one of the existing Refinery process units. The Delayed Coker has two fired heaters (DC-H-1A and DC-H-1B) to provide the necessary heat for the coking process. The existing heaters are not adequate to allow optimization of the Delayed Coker, provide operational flexibility, and maintain on-stream reliability. As part of Refinery Upgrade Project, CENCO plans to install a third Coker Charge Heater (DC-H-1C) equipped with low-NOx burners and Selective Catalytic

was inadvertently omitted from the facility's air permits, therefore, the coalescers are being included as "new" equipment in this CEQA document.)

Crude Oil and Petroleum Product Unloading Rack

An unloading rack will be installed to unload both crude oil and petroleum products. This rack will consist of one unloading bay and will have appropriate secondary containment and emergency shut-off controls.

~~**Olefin Splitter**~~

~~The feed to the Olefin Splitter is a mixture of mainly propane and butane components from the existing coker and FCCU units.~~ ~~The feed~~ is heated in the feed/effluent exchangers before being fed to the Olefin Splitter column. In this column the C3s (propane and propylene) are separated from the C4s (butanes and butenes). All overheads are condensed in an air cooler. No overhead vapor product is produced. The C3 liquid is pumped back to the column as reflux and rundown as product to storage. The product to storage is further cooled in a water cooler.

The bottom product is first cooled in the feed/effluent exchanger and further cooled in a water cooler. The bottom product is normally processed in the Alkylation Unit. It also can be rundown to storage tanks.

Asphalt Production

Asphalt will be produced in the existing Vacuum Unit. Asphalt is basically vacuum tower bottoms that meet the asphalt specifications. The product quality to meet the asphalt specifications will be controlled by adjusting the operating conditions in the unit and selecting the crude type. Approximately 5,000 barrels per day of asphalt will be produced. The asphalt will be stored in two new 30,000 barrel storage tanks using the existing vacuum tower bottom pumps.

The tanks will be kept hot by circulating the asphalt using an existing heater. A steam heater at the tank suction will be installed to maintain a pumpable viscosity for loading. The tanks will be insulated and vented to the atmosphere. The asphalt vacuum tower bottoms will not produce any vapor. The asphalt will be delivered in tank trucks. It will be pumped to the loading rack utilizing new pumps.

CUMULATIVE REFINERY PROJECTS

At the same time that it is conducting the 1999 Refinery Upgrade Project, CENCO will be constructing two additional projects which are not considered part of the 1999 Refinery Upgrade Project. The first additional project consists of completion of those portions of the Reformulated Fuels Project which have not yet been constructed and which will be constructed as described in the Reformulated Project Fuels EIR (see Table 2-1). The potential impacts and mitigation, where required, are described in detail in the Reformulated Fuels Project EIR (SCAQMD, 1994 and

Attachment 3

Refinery Tanks Potentially Containing Hazardous Materials

20014	Recovered Oil
10006	Oil Bearing Material
17105	Oil Bearing Material
1002	Spent Caustic
2030	Spent Caustic
96109	Crude
96110	Crude
5516	Decant Oil (Clarified Sherry Oil)
79022	Oil Bearing Material
96090	Oil Bearing Material